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Cover photo *Acacia thomsii* by Anne Powys

Editor: Catherine Ngarachu

Photo credit Anne Powys

Record of Seed-set in an Endemic Kenyan Acacia (*Acacia thomasii*)

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and Anne Powys

Acacia trees and shrubs are an important and characteristic feature of a large area of East Africa. The genus *Acacia* is a large one, with some 1200 species distributed from Australia, through India, the Middle East, throughout Africa and into the southern United States as well as into Central and South America. There are forty-three species found in Kenya (Coe and Beentje, 1991).

Acacias are a classic and integral part of the hot arid and semi-arid lands that cover over two-thirds of the country. Only two species are considered endemic to Kenya, *Acacia thomasii* being one of them. *Acacia thomasii* is found in the southern Great Rift Valley, the greater Tsavo area, east towards Kitui and Garissa and up into northern Kenya.

Considered 'an uncommon plant, occurring in small groups', in Kenya Trees Shrubs & Lianas (Beentje, 1994), the seeds of this species are described as 'not recorded', in the book *A Field Guide to the Acacias of Kenya* (Coe and Beentje, 1991). Coe and Beentje also call for the careful collection and description of seed material from the less-common species of Kenyan acacias. Other authors (Ross) give only cursory descriptions of seed. We present here a detailed analysis of the seed and seed-pod form, structure and habits, of *A. thomasii* observed and collected in the southern Rift Valley, in the area north of the Olorgesailie pre-historic site.

General description of *A. thomasii*

Acacia thomasii *Harms*

Acacia thomasii is unusual in growth form, the side branches begin to spread sparsely at about 1m, and central branches are straight and elongate, growing tall and whippy to 13-20m tall, young branches greyish, densely pubescent.

Bark is a reddish brown, flaking and peeling in neat scrolls; the main trunk when fully mature is dark brown and hardly flaky. Prickles are in threes, the central one facing downwards, these prickles are just below the nodes.

Leaves: petiole1-2mm wide, 15mm long, rhachis 6cm long pubescent; pinnae 2-5 pairs.

Inflorescence is a spike up to 10cm long, creamy white, dense and fragrant. The fragrance is musky and strong, not sweet as in the similar-flowered *Acacia senegal*. Preliminary observations of pollinators indicate that this species is late-dehiscing and visited by wasps (*Sphecidae*), butterflies (*Lycaenidae, Nymphalidae*) and wild bee species (*Apidae, Megachilidae, Halictidae*).

Seed-pod

Length varies from 3.5 cm to 6.9 cm, with an average length of 5.56 cm. Pods are dehiscent, very loosely attached to the branches when ripe, and readily shed their seeds when slightly shaken. A number of seeds could be seen lying on the ground beneath trees awaiting possible dispersal by seed-eating birds and mammals.

The pods are pale yellow-ochre to dusty-brown in colour, with fine, nerve-like veins radiating inwards from the raised ridge of the outer margin.

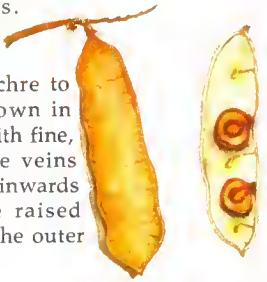

Illustration by Dino Martins

Seeds

The seeds are circular, with a small point where attached to the pod. Diameter of the seeds ranges from 0.8 cm to 1.0 cm, with an average diameter of 0.93 cm.

Thickness varies from 1.25 mm to 2 mm, with an average thickness of 1.75 mm. The seeds of this species are unevenly thickened, and slightly creased with age.

Colour, when ripe, is a pastel ochre yellow-brown to dark-brown, with a characteristic U-shaped mark on both surfaces directly beneath the point of attachment to the seed-pod, running around the central point of the seed.

Many gaps still exist in our knowledge of the distribution and variability of acacias across Kenya. We hope that this interesting record will serve as a stimulus to collect more information on this fascinating and beautiful genus.

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Reader Comments

Distribution of Hedgehogs

I was interested to read R Salter's note on the occurrence of the White-bellied African Hedgehog (*Atelerix albiventris*) in the Usambaras, in the last issue of *Nature East Africa* (Vol 32 1&2). According to the quote from Kingdon, the distribution of this hedgehog is intermittent through the savannah and semi-arid zones of northern Africa. I am not sure how many species of hedgehog occur in East Africa. In *A Field Guide to the National Parks of East Africa* (1967) J G Williams mentions only one, *Erinaceus pruneri*, and he lists it only for the Serengeti. Perhaps this is a synonym of *A. albiventris*, as the description mentions white underparts and the Algerian hedgehog, at least, has been reclassified from *Erinaceus* to *Atelerix*. In any case, hedgehogs certainly seem to be erratically distributed in the Tanzanian savannah zone around Lake Victoria. I saw no signs of hedgehogs within 30-40 miles of Mwanza while stationed at Ukiriguru during 1968-74, but they were numerous at the Mwadui diamond mine near Shinyanga (*E. A. Nat. Hist. Soc. Bulletin*, June 1973, 78-79). They seem to like suburban habitats, as these were often seen in the Mwadui staff housing area and Williams mentions that they are abundant in the Nairobi district. Suburban gardens probably resemble forest and open grassy woodland more closely than savannah and semi-arid land, so perhaps its occurrence on the borders of riverine forest is not so surprising.

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Editor's note: In the EANHS *Check-list of the Mammals of East Africa*, 1994, there is only one hedgehog *Atelerix albiventris* (there called Four-toed Hedgehog) listed for Kenya, Uganda and Tanzania.

Life All Around Us
a series about the Invertebrates, the Earth's most biodiverse creatures

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ANNELIDS: worms with rings

Annelids plough the soil. The annelids, or segmented worms, include the earthworms of our gardens. Earthworms live in the soil; as they feed they break down organic matter, their tunnels let air and water into the soil, and their travels mix subsoil and topsoil.

Annelids include **leeches** in fresh water, **earthworms** in soil, and a variety of **marine worms**. Many marine annelids hardly look like worms. Some have colourful, feathery gills that look like flowers.

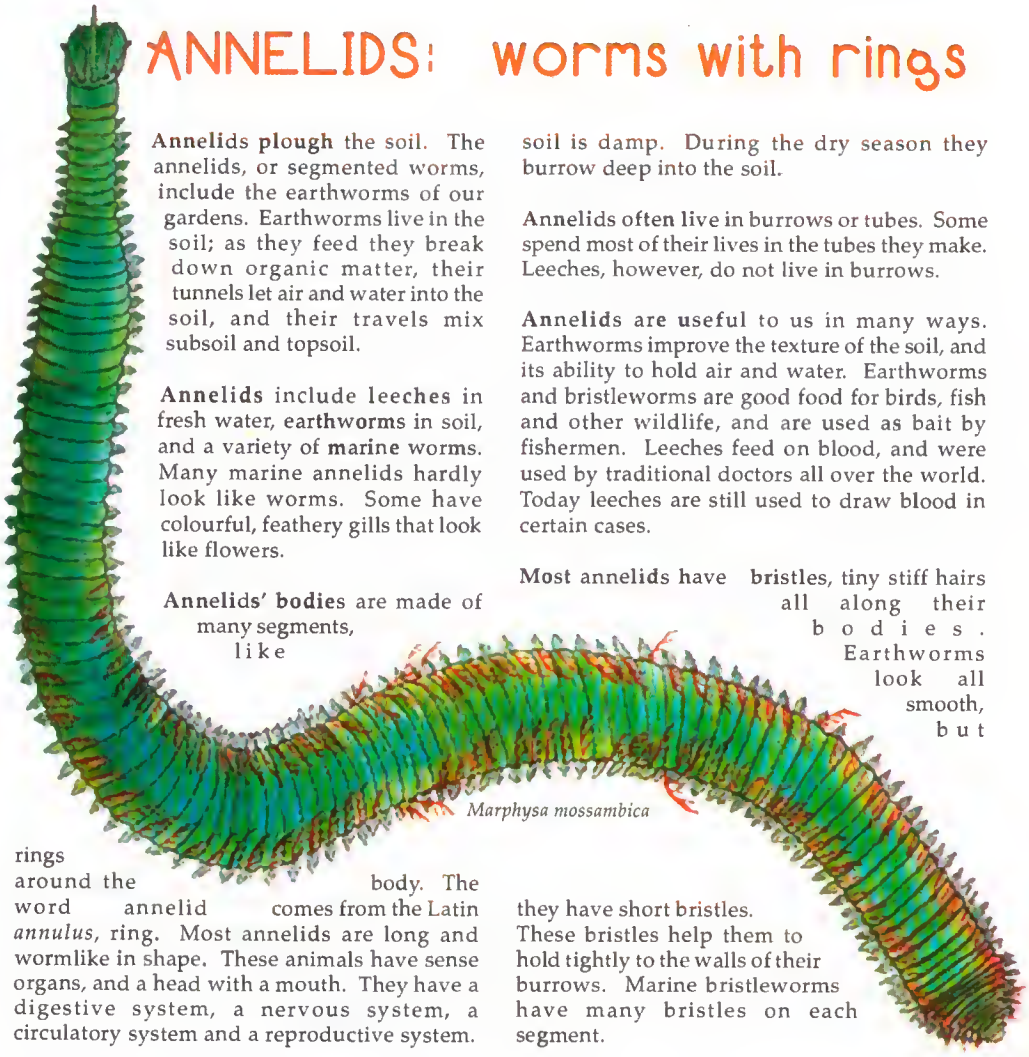
Annelids' bodies are made of many segments, like rings around the body. The word annelid comes from the Latin *annulus*, ring. Most annelids are long and wormlike in shape. These animals have sense organs, and a head with a mouth. They have a digestive system, a nervous system, a circulatory system and a reproductive system.

Annelids need moisture to live. Most live in the sea, others in fresh water. Earthworms are most active during the rainy season when the soil is damp. During the dry season they burrow deep into the soil.

Annelids often live in burrows or tubes. Some spend most of their lives in the tubes they make. Leeches, however, do not live in burrows.

Annelids are useful to us in many ways. Earthworms improve the texture of the soil, and its ability to hold air and water. Earthworms and bristleworms are good food for birds, fish and other wildlife, and are used as bait by fishermen. Leeches feed on blood, and were used by traditional doctors all over the world. Today leeches are still used to draw blood in certain cases.

Most annelids have bristles, tiny stiff hairs all along their bodies. Earthworms look all smooth, but they have short bristles. These bristles help them to hold tightly to the walls of their burrows. Marine bristleworms have many bristles on each segment.



Marphysa mossambica

Colour Illustrations from Richmond, M.D. (ed), 1997, *A Guide to the Seashores of Eastern Africa*

Annelids belong to the great group of animals called the Invertebrates – animals without backbones. The worms that are parasites in our intestines belong to other groups of worms (see *EANHS Bulletin* 30 and 31).

Acknowledgements:
Thanks to Maryanne Kamau and the late Alex MacKay
Illustrations from *Rainbow* magazine, June 1988, by Nani Croze, Lengai Croze and Arabron Osanya-Nyyneque.
An earlier version of this series of articles first appeared in *Rainbow* magazine.

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Previous article in this series:
Corals and Jellyfish: Builders and Stingers, *EANHS Bulletin vol. 30 no. 1*
Flatworms, simple animals that wriggle inside us, *EANHS Bulletin vol. 30 no.2*
Nematodes: in soil, in sea, in plants and in you, *EANHS Bulletin vol. 31 no.1 & 2*
Tubeworms, dwellers of the deep, dark sea, *Nature East Africa (EANHS Bulletin) vol. 32 no.1 & 2*

POLYCHAETES
Bristleworms, tubeworms and fanworms

Bristleworms

Bristleworms live in the sea, in burrows in mud or cracks in old coral. They range in size from a few centimetres to about half a metre long. You may find one crawling in shallow sea water. Many fishermen use bristleworms as bait, but watch out – its bristles may be as fine and sharp as cactus spines.

The rings or segments on a bristleworm are usually flattened. At the side of each segment are leg-like structures called parapods. Each parapod has bundles of bristles on it. The parapods help the bristleworm to swim or crawl. Blood vessels in the parapods also help the worms to take oxygen from sea water.

Most of the time, bristleworms stay in their burrows or hunt nearby; many are active hunters with strong mouthparts to grab their prey. In the mating season, however, bristleworms called palolo worms swarm in immense numbers on the surface of the sea.

Some palolo worms are males, others are females. When they meet, they shed their egg cells and sperm cells into the sea. The adult worms die, and in the sea, the sperms fertilise the eggs. They become very tiny larvae called trochophore larvae.

The trochophore larva is rounded in shape, and has hair-like cilia on its surface. It drifts with the plankton, the tiny animals and plants that float near the surface of the sea. As the larva grows, it becomes longer in shape. Soon it develops segments and grows into a young bristleworm.

Fanworms and Featherworms

Featherworms, fanworms and peacock worms do not look like worms. When you find them on the coral reef, they look more like flowers or feather dusters. If you get too close, suddenly the 'fan' or 'flower' shuts and disappears. In its place there is a tube made from a hard material.

Pherusa parmata

A worm-like animal lives inside the tube. On its head, the worm has long tentacles that look like feathers, spreading out above the tube. The tentacles may be creamy white in colour, or brightly coloured. Some have patterns like peacock or turkey feathers.

The feathery tentacles help the worm to feed and breathe. They trap small floating animals and plants, and bits of organic matter. The food is pushed down to the worm in the tube by rows of cilia, or tiny hairs. Blood vessels in the feathery tentacles take oxygen from the sea water.

Some worms have eyespots on the tentacles, too. If you are nearby and move, or your shadow falls on the fanworm, the worm senses it. It quickly pulls its tentacles back into its tube.

Other Polychaetes

A variety of polychaete worms make tubes in which to live, using slimy mucus or hard calcium carbonate that they produce themselves, or bits of other materials. Serpulid worms build small crooked tubes of calcium carbonate, white or pink in colour, on rocks, shells or other hard surfaces.

Sand mason worms make tubes from bits of objects stuck together with mucus. The mucus hardens into a leathery, flexible tube. You may find the upper part of the tube sticking out of the sand in shallow sea water. The worm lives inside and feeds on bits of dead organic matter.

Ice-cream-cone worms make conical tubes, open at both ends, out of grains of sand. They feed in the sand, filtering out bits of organic matter. As they feed, they pile the sand up into heaps outside their burrrows.

Some polychaete worms live in burrows shaped like the letter "U". The worm draws water into one end, extracts bits of organic matter suspended in the water, and pushes the water out the other end of the burrow.

A wide range of tiny polychaete worms live in wet mud and sand at the edge of the sea. The myriad minute animals that live among sand grains or mud particles on the sea shore are called the meiofauna.

LEECHES

Leeches live mainly in fresh water. A few leeches live in wet, warm forests, and some live in the sea. They are usually a few millimetres to a few centimetres long in size.

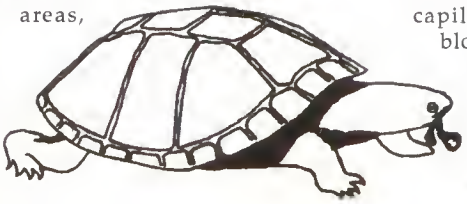
Most leeches feed on blood, although many leeches also feed on small water animals. A variety of leeches are parasites on the skin of large animals. They feed on turtles, frogs, and mammals. Some leeches live most of their lives in the mouths of crocodiles. Others live on the gills of fishes. A few leeches feed on other invertebrates.

A leech has a sucker at each end of its body. It anchors itself on an animal with its suckers. Then it presses its mouth on the animal's skin. Inside the mouth are three teeth that work like tiny saws.

The leech cuts through the skin with its three teeth, and injects a chemical that stops blood from clotting. That makes the blood flow freely as the leech sucks. A leech can swallow two or three times its own weight in blood.

After feeding, the leech usually drops off. It may take several weeks to several months to digest its meal of blood. The leech stores the blood in its body and consumes it slowly.

In some areas, cattle may drink water with leeches in it. The leeches then attach themselves on the inside of the cows' mouths, and may collect at the back of their tongues. Leeches are slippery, so people hold a leaf with a rough surface when they remove leeches from cattle. If there are many leeches, it may even make the cow choke.



If you wade in a stream or marsh, a few dark-coloured leeches may stick to you. They are unpleasant but not harmful. Try to push them off from your skin. If that does not work, put some salt on the leech; it will let go to avoid the salt. Do not pull off a leech, as its teeth might then remain in your skin. Because the leech produces a chemical preventing blood from clotting, the cut may bleed for a while. Losing a few drops of blood will do no harm.

Leeches have been used medicinally for a long time. At one time, people in Europe believed that removing 'excess' blood from a sick person would remove some of the disease. Doctors put leeches on people and let the leeches suck out a certain amount of blood.

Today, we know that sick people usually need more blood, not less. Yet leeches are still sometimes used. For example, someone may get bruised from an accident. The blood capillaries break, and blood collects under the skin. A leech can suck out the blood in the bruise.

EARTHWORMS

You find them in the compost heap and in damp ground near ponds, ditches and sewage. They are long, narrow and cylindrical, and they wriggle wildly when you pick them up. Their colour varies from brown and grey to pink and sometimes even green.

As their name implies, earthworms live in the earth. They dig burrows in the soil, which open to the surface. Earthworms are nocturnal; they come out at night to feed and mate, and draw back in their burrows at dawn. In the dry season, earthworms dig deeper and deeper into the ground. They dig out a small chamber, line it with slime, and curl up in it. There they await the return of the rains.

Our earthworms are fairly small, usually a few centimetres to 30 cm long. In Australia, giant earthworms may grow to three metres long. Earthworms have no legs or any kind of growth on their bodies, except for tiny bristles.

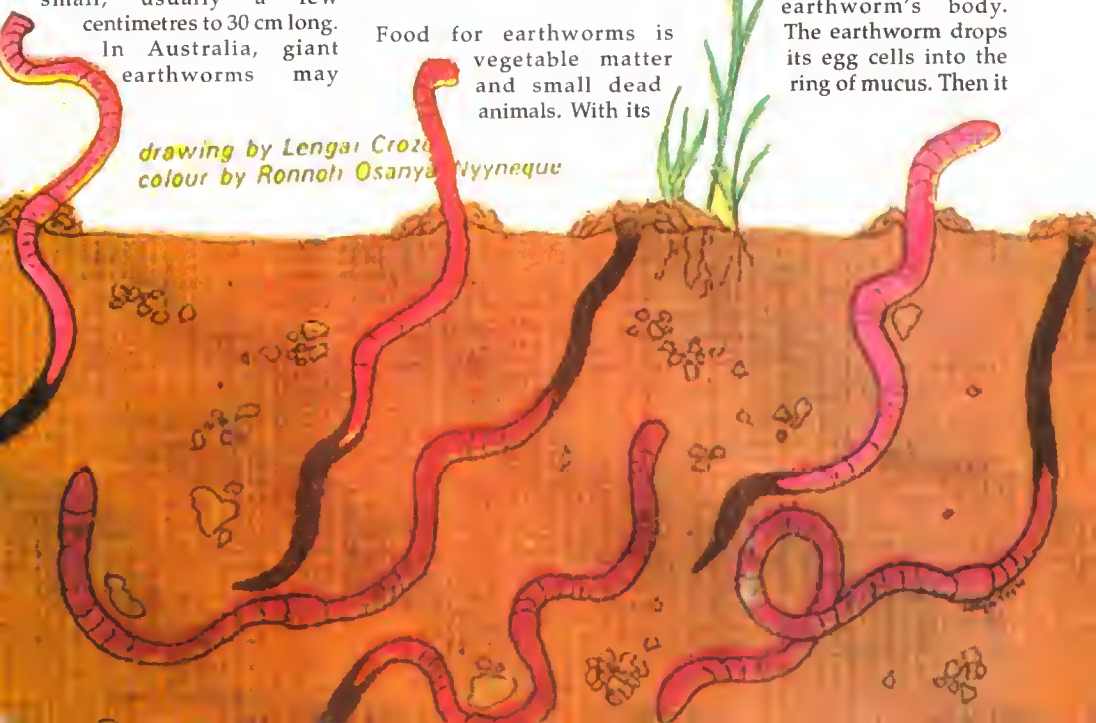
An earthworm gets from one place to another by crawling. The earthworm moves the front part of its body by stretching. With the help of its bristles, it holds firmly to the ground. Then it moves the rest of its body by shortening it.

Earthworms have a mouth at one end of their long bodies, and an anus at the other end. They have no eyes or ears, but have sense cells on the surface of their bodies. The sense cells are sensitive to touch and light, to vibrations in the ground, and to certain chemicals and temperature changes. Earthworms may also have a sense of taste. In experiments, earthworms have been found to prefer certain kinds of foods to others.

Food for earthworms is vegetable matter and small dead animals. With its mouth, the earthworm nibbles on decaying organic matter. Earthworms also swallow a lot of soil in the process of digging their burrows. The soil passes through the digestive system, and the organic matter in the soil is digested for food. At the end, the soil passes out of the earthworm's body through the anus.

Each earthworm is both male and female. The worms mate by pressing the front parts of their bodies together. Each earthworm receives sperm cells from the other earthworm.

After mating, the earthworm produces a thick ring of mucus, or sticky slime. The mucus is produced by the thicker, wider ring near the worm's front end. The ring of slime then moves forward over the earthworm's body. The earthworm drops its egg cells into the ring of mucus. Then it



drops the sperm cells it collected from the other earthworm into the ring.

As the ring of mucus slips off the earthworm's body it closes into a sac. Inside the sac the sperms fertilise the eggs. The mucus hardens and protects the developing eggs inside. Little earthworms later hatch from the protective sac.

To look for earthworms, dig in rich, damp soil. Earthworms need organic matter to feed on, and they take oxygen from moist air. Earthworms themselves enrich the soil, by breaking down rotting vegetation into tiny particles.

More important, they improve the texture of the soil. By digging burrows, earthworms help the soil to hold air and water. Without air and water, plant roots will die. As they dig in topsoil and subsoil, earthworms also help to mix the soil.

In some countries, earthworms are big business. In the United States, for example, fishermen use earthworms to bait their fishhooks. People raise earthworms, also called night crawlers, and sell them to fishermen. Farmers also buy earthworms to improve the soil.

Some people raise earthworms to eat their rubbish. The worms eat organic matter such as vegetable peelings and table scraps, and turn it into rich soil. Many birds, small mammals, reptiles and amphibians like to eat earthworms. Some people even say that earthworms, ground into powder, could make good food for us, too!

Tubifex worms
These small fresh-water worms are related to earthworms. People raise tubifex worms to feed to aquarium fishes. Some tubifex worms survive in highly polluted areas.

Habitat is gone but look at what remained:

Bird population estimation at Nairobi Museum grounds

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Staff, interns and volunteers at the Ornithology Department of the National Museums of Kenya gain knowledge and experience by ringing birds in the Museum compound in Nairobi. The birds are caught in fine nets call mist nets. The birds are identified, measured, weighed, and fitted with a tiny aluminium band (the 'ring') on one leg. These ringing sessions developed the now well-known Nairobi Ringing Group, which is now part of the Ornithology Department's education and training outreach programme.

The most important site for the bird-ringing training sessions has been the riverine habitat adjacent to the Nairobi Museum. From here, a large amount of interesting data has been collected through consistent ringing every Thursday morning for almost ten years. The accumulated data is even more valuable now, as the natural riverine habitat has been cleared, and ringing has been suspended.

Continued on page 13

Checklist of the Common Birds of National Museum Grounds, Nairobi

English names first in **bold**, scientific names second in *italics*, Swahili names third in normal type. Checklist compiled by the Bird Committee of Nature Kenya (the East Africa Natural History Society, the BirdLife partner in Kenya), in conjunction with the Department of Ornithology, National Museums of Kenya. The English names follow the EANHS ***Check-list of the Birds of Kenya*** (Third edition, 1996); and the Swahili names follow the ***Checklist of Kiswahili names of the Birds of Tanzania***, by C. Mlingwa, 2000.

Illustrations by Peter Gaede. Text by Fleur Ng'weno.

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HAMERKOP

A big, long-legged bird with a crest, brown all over. Lives near water and catches frogs, tadpoles and fish. Builds an enormous nest in a large tree. Found only in Africa.

Hamerkop *Scopus umbretta* Fundichuma (Msingwe)

STORKS

Large birds with a long beak, long neck, long legs.

Some have no feathers on the head.

Marabou Stork *Leptoptilus crumeniferus* Marabu

IBISES

Large birds with a long curved beak. Hadada make loud cries;

Sacred ibis were sacred to the ancient Egyptians.

Sacred Ibis *Threskiornis aethiopicus* Kwarara mweupe

Hadada Ibis *Bostrychia hagedash* Kwarara

EAGLES, HAWKS & KITES

Birds of prey (raptors) are hunters or scavengers. They have powerful beaks and strong sharp claws. Both eyes face forward and can see details from a distance.

Black Kite *Milvus migrans* Mwewe

African Goshawk *Accipiter tachiro* Kipanga-misitu

Great Sparrowhawk *Accipiter melanoleucus* Kipanga mweusi

Augur Buzzard *Buteo augur* Shakivale mweupe

PIGEONS & DOVES

Medium-sized birds with a deep cooing voice. They look fat but fly fast. Includes domestic pigeons and several kinds of doves with a black half-band on the neck.

Red-eyed Dove *Streptopelia semitorquata* Tetere jichojekundu

SWIFTS

Small to medium-sized birds built for speed in flight. Swifts have narrow bodies and strong narrow wings. They catch insects in flight. Little swifts build nests on buildings and under bridges.

Little Swift *Apus affinis* Teleka mdogo

MOUSEBIRDS

Found only in Africa. Mousebirds are medium-sized birds with long tails and a little crest. They stay together in groups, feeding on tender leaves and fruits.

Speckled Mousebird *Colius striatus* Pasa-michirizi

KINGFISHERS

With its very long beak, a kingfisher catches fish, tadpoles, crayfish or insects. The head and beak are large compared to small body and short legs.

Malachite Kingfisher *Alcedo cristata* Kichi Kishungibuluu

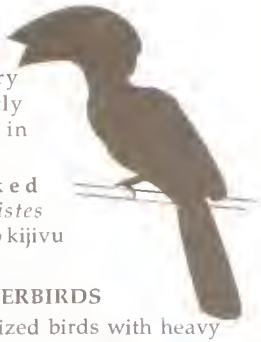
Giant Kingfisher *Megaceryle maxima* Zumbulu

BEE-EATERS

Bee-eaters, medium in size, perch on bare branches or wires. They fly out to catch bees, wasps and other insects with their long, pointed beaks. Most are beautifully coloured.

Cinnamon-chested Bee-eater *Merops oreobates* Kinega Kifuamarungi

HORNBILLS



Big birds with very big beaks. Mostly black and white in colour.

Silvery-cheeked Hornbill *Bycanistes brevis* Hondohondo kijivu

BARBETS & TINKERBIRDS

Small to medium-sized birds with heavy beaks. Feed on fruits. Tiny tinkerbirds make a loud "tink, tink, tink" call (fruit bats make a similar sound at night).

Yellow-rumped Tinkerbird *Pogoniulus bilineatus* Tingitingi Kiunonjano

HONEYGUIDES

Small birds, grey and greenish in colour, outer tail feathers white. Feed on insects, especially scale insects with waxy coverings. Some honeyguides lead people to bees' nests.

Eastern Honeybird *Prodotiscus zambesiae* Mlembe mgongokijani

WAGTAILS

Wagtails move their long tails up and down as they walk on the ground. These small birds catch insects near water or near the homes of people.

African Pied Wagtail *Motacilla aguimp* Kiluwiluwi-majumba

Mountain Wagtail *Motacilla clara* Kiluwiluwi-mlima

BULBULS

The bulbul is a small bird with a short cheerful song. It is dark above, pale below, and yellow under the tail. It lives in a variety of habitats, including parks and gardens.

Common Bulbul *Pycnonotus barbatus* Sholwe (Shore)

THRUSHES & ROBINS

Most thrushes sing beautiful songs; some are brightly coloured. Small to medium in size, they hop on the ground or in trees. They have sharp beaks to catch insects.

Rüppell's Robin-Chat *Cossypha semirufa* Kurumbiza-rupeli

Olive Thrush *Turdus olivaceus* Kuruwiji Kijanikijivu

FLYCATCHERS

Flycatchers are fairly small. They perch upright, and then fly out or down to catch an insect.

African Dusky Flycatcher *Muscicapa adusta* Chechele-madoa

Spotted Flycatcher *Muscicapa striata* Chechele Kijivucheusi (migrant from north)

White-eyed Slaty Flycatcher *Melaenornis fischeri* Chechele machomeupe

WARBLERS

Small birds with a thin sharp beak for catching insects. Usually busy searching for insects among the leaves. More often heard than seen.

Blackcap *Sylvia atricapilla* Shoro Kichwacheuzi (migrant from north)

Willow Warbler *Phylloscopus trochilus* Shorombuga (migrant from north)

Singing Cisticola *Cisticola cantans* Kidenenda-kiwimbo

Red-faced Cisticola *Cisticola erythrops* Kidenenda Usomwekundu

Grey-backed Camaroptera *Camaroptera brachyura* Kibwirosagi

WHITE-EYES

Very small yellow birds with a white ring around the eye. Feed on fruits and insects.

Abyssinian White-eye *Zosterops abyssinicus* Kinengenenge-habeshi

Montane White-eye *Zosterops poliogaster* Kinengenenge-mlima

TITS

Small birds that search for insects in the bark of tree trunks and branches. Mostly black and white in colour, with a short thin beak. Sing a cheerful chuckling song.

White-bellied Tit *Parus albiventris* Chambombe Tumbojeupe

MONARCH FLYCATCHERS

Beautiful small birds with long tail and short crest. Paradise Flycatchers (Monarchs) are orange-brown on the back, wings and tail; the breeding male has a very long tail.

African Paradise Flycatcher *Terpsiphone viridis* Chechele Mwekundu

SHRIKES

Small to medium-sized birds with sharp hooked beaks. Perch on a fence, wire or dry branch and fly down to catch insects or lizards on the ground. Mostly black and white in colour.

Common Fiscal *Lanius collaris* Mbwigu Mgongomweupe

BUSH-SHRIKES

Small to medium in size; more often heard than seen. Feed on insects in the trees. In the breeding season, puff-backs puff out the white feathers on the rump.

Black-backed Puffback *Dryoscopus cubla* Chukui Kiunocheupe

CROWS

Large, noisy, intelligent birds. The most common and widespread crow in Africa south of the Sahara is black and white (pied).

Pied Crow *Corvus albus* Kunguru mweupe

SUNBIRDS

Small and very small birds with long curved beaks. Feed on insects, and nectar in flowers. Most sunbirds have feathers with iridescent colours that change as the light changes.

Collared Sunbird *Anthreptes collaris* Chozi-mkufu

Amethyst Sunbird *Nectarinia amethystina* Chozi mweusi

Variable Sunbird *Nectarinia venusta* Chozi Tumbonjano

Bronze Sunbird *Nectarinia kilimensis* Neli-kilima

SPARROWS

Small birds with strong beaks for cracking seeds. Usually grey and reddish-brown ("rufous") in colour.

Rufous Sparrow *Passer rufociuctus* Korobindo Kahawia

Grey-headed Sparrow *Passer griseus* Korobindo-gongoni

House Sparrow *Passer domesticus* Korobindo usomweusi

WEAVERS

Small birds that build woven nests in trees, bushes and reeds. Strong beak for eating seeds and insects. Mostly yellow and/or black in colour.

Grosbeak Weaver *Amblyospiza albifrons* Yombeyombe

Baglafecht Weaver *Ploceus baglafecht* Kwera Usomweusi

Holub's Golden Weaver *Ploceus xanthops* Kwera Manjano Mkubwa (Koyo)

Speke's Weaver *Ploceus spekei* Kwera Kifuakahawia

Chestnut Weaver *Ploceus rubiginosus* Kwera Mwekundu (seasonal)

Black-headed (Village) Weaver *Ploceus cucullatus* Nguya

WAXBILLS

Very small birds with short thick beaks for cracking grass seeds. Seen low, in bushes, on grasses, or on the ground.

Red-billed Firefinch *Lagonosticta senegala* Bwerenda Domojekundu

Bronze Mannikin *Lonchura cucullata* Chigi-madoa

INDIGOBIRDS & WHYDAHS

Small birds with short thick beaks. Nest parasites: the female lays her eggs in the nests of other birds. Red-billed firefinches may then raise young indigobirds with their own young.

Village Indigobird *Vidua chalybeata* Kitongo Domojekundu (In Nairobi the bill is white)

CANARIES & FINCHES

Small birds with a rolling melodious song. Canaries are lime-yellow in colour. Seedeaters are mostly grey-brown. They have short thick beaks for cracking seeds.

African Citril *Serinus citrinelloides* Chiriku Mdogo

Streaky Seedeater *Serinus striolatus* Mpasuambegu michirizi

NOTES:

From page 8

Data collected from bird ringing can give information on the ageing, lifespan, breeding, moulting, weight and migration of birds.

Data from the bird ringing at the Museum also illustrates frequencies of captures and recaptures of birds. Information on recaptures is useful, as for example, the population is assumed to be restricted, it can show if it is worth investing effort in a focused study of specific individual(s) or species of birds at the site.

An analysis of the captures and recaptures data (over the period 1998-2002) reveals that the population of birds, at this site, was 1058. Trends for individuals are also clear. For instance, a Malachite Kingfisher *Alcedo cristata galerita* was captured 15 times within the study period. Interesting information on the biology of such an individual can be interpreted.

The training sessions have been useful to many people who benefited from the guidance of Dr. Leon Bennun (previously Head of Department), Colin Jackson (Department Associate) and technical staff of the Ornithology Department.

Photos credits: Wanyoike Wamiti

Ornithology Department research fellows and student interns at a bird ringing training session at the Nairobi Museum Grounds

The Zanzibar Leopard between Science and Cryptozoology

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The Zanzibar Leopard, *Panthera pardus adersi*, is an elusive and possibly extinct subspecies endemic to Unguja (Zanzibar) Island. It has presumably been evolving in isolation from other leopards since at least the end of the last Ice Age, when Unguja was separated from the Tanzanian mainland by rising sea levels. The "founder effect" (genetic characteristics of the marooned population) and/or adaptation to local island conditions produced a smaller leopard than its continental relatives and one which "changed its spots", or rather saw its more numerous rosettes partially disintegrate into spots (Pakenham, 1984; Kingdon, 1989).

Not much is known about the biology of the Zanzibar Leopard. Visitors to the natural history section of the Zanzibar Museum will be familiar with the stuffed and rather faded specimen kept in a display case there together with an old black white photograph of a leopard trap. Apart from scraps of pelt furtively kept by hunters, to date we have only located five other skins: three in the Natural History Museum in London and two in the Harvard Museum of Comparative Zoology in Cambridge, Massachusetts. Of these only one specimen in London and the two Harvard skins are accompanied by their skulls.

The Zanzibar Leopard's behaviour is also poorly understood. It has never been studied in the wild and the last time a researcher claimed in print to have seen one was in theearly 1980s. Rural Zanzibaris' descriptions of the leopard and its habits are coloured by the widespread belief that an alarming number of these carnivores are kept by witches (*wachawi*) and sent by them to harm or otherwise harass their fellow villagers. This belief comes together with an elaborate package of ideas about how leopards are bred, trained, exchanged and sent to do the evil bidding of their owners. For local farmers this supplies a neat explanation for predation by leopards on livestock and humans, and more generally for their appearance 'out and place' in the vicinity of farms and villages (Goldman and Walsh, 1997).

The growth of human population and agriculture in the 20th century was largely responsible for this state of affairs, as people encroached on the habitat of leopards and the animals they preyed upon. Increasing conflict with leopards and the fear that this generated led to a series of campaigns to exterminate them. These were localised at first, but became island-wide after the Zanzibar Revolution, when a combined anti-witchcraft and leopard-killing campaign was launched under the leadership of Unguja's most famous witch-finder, Kitanzi. The long-term result of this campaign and the subsequent classification of leopards as 'vermin' was to bring them to the brink of extinction (Walsh and Goldman, 2003).

The available evidence suggests that when we began our joint research on the Zanzibar Leopard in the mid-1990s there were still a few of these elusive animals remaining (Goldman and Walsh, In press). Now we can't be so sure. Most zoologists think that this island leopard is extinct: indeed some of them already thought so when we began our joint study in 1996. This pessimistic conclusion scotched subsequent proposals for a conservation initiative targeting the Zanzibar Leopard: if they were gone or going then there wasn't much point in trying to do anything about it - apart from supporting the habitat conservation initiatives that were already underway on the island.

By contrast, the majority of people who live and work on the 'coral rag' lands of southern and eastern of Unguja, including government staff and conservationists, believe that the Zanzibar Leopard has not been completely exterminated. Claims of sightings abound, as do reports of other evidence for leopards' continued presence on the island and their nefarious use by witches. Many of these reports are difficult to evaluate and impossible to verify independently. So far none of the cases that we have investigated over the past two years (2002-03) has produced confirmation of a sighting or other leopard signs.

The recent scientific 'discovery' of the Zanzibar Servaline Genet *Genetta servalina archeri*, previously known only to islanders themselves, suggests that perhaps Unguja has yet to give up all of its zoological secrets. This small carnivore, another island endemic, was first described from an old skin and skull obtained in 1995. Its status was uncertain until a number of individuals were photo-trapped in January 2003 (Goldman and Winther-Hansen, 2003a; 2003b). If the Zanzibar Leopard survives, then similar standards of proof will have to be applied for any record to be acceptable to the scientific community. Otherwise most of us will get no closer to it than that faded museum specimen and those colourful cryptozoological narratives.

Acknowledgements
In addition to all of the people and institutions acknowledged in our original (1997) report, we would like to thank Daphne Hills in the Zoology Department (Mammal Group) of the Natural History Museum, London, and Judith Chupasko and Mark Omura in the Mammal Department, Harvard Museum of Comparative Zoology, for facilitating the examination and recording of specimens.

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* Pdf versions of these reports can be obtained from the authors on request.

Continued on next page

Information Request

The Zanzibar Leopard

We are continuing research and writing on the Zanzibar Leopard and the many issues that this case raises. We would very much like to hear from anyone who has any information about the island leopard and/or its products. We are especially interested in historical records from different periods, both before and after the Zanzibar Revolution, and including recollections of leopard hunting on Unguja Island and the fate of leopard skins.

Please e-mail us at one or both of our addresses or write to us at 8 Church Lane, Cambridge, CB2 2LA, U.K. Any assistance will be gratefully acknowledged.

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In Appreciation

In the past year the Society lost a number of members who dedicated a great part of their life to the study and conservation of natural history. For their life time work we acknowledge their extra ordinary contribution

Shirley Agnew
Alex Mackay
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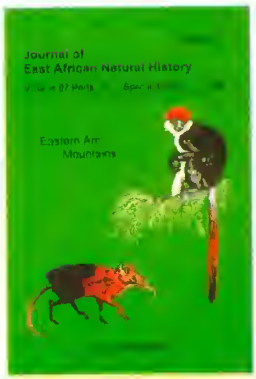
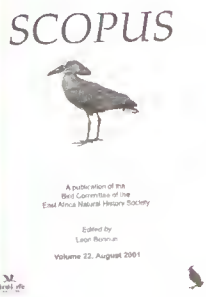
Stuart Keith





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The EANHS is a long established Society, which startedthe first museum in the region. It was founded in 1909 to promote the study and conservation of nature in eastern Africa.

The EANHS operates nationally in Kenya (Nature Kenya) and in Uganda (Nature Uganda). These two organisations are taking action for biodiversity conservation through intervention at various levels: advocacy, monitoring, training, education and work with local communties.

The EANHS has a strong participatory tradition and members are active at in all areas of work. Listed below are the names and contacts of the annually elected Executive Committees and the contact persons and contacts for the many Committees and Projects that are active in conservation, research and education.

If you are interested in the work of any committee or project please contact the listed person or email office@naturekenya.org or nature@natureuganda.org

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The BirdLife Africa Division is based in Nairobi with offices at the International Centre for Insect Physiology and Ecology (ICIPE). You can reach them at birdlife@birdlife.org.ke

Time out – on the Kinangop Plateau

The grassland of the Kinangop Plateau stretches from the western part of the Aberdare ranges to the edge of the eastern escarpment of the Rift Valley. The present day community is mostly Agikuyu. Most farmers combine crop cultivation with rearing sheep and cattle.

The Kinangop grasslands are habitat for Sharpe's Longclaw, a globally threatened bird species, and have been designated an Important Bird Area. Although the natural vegetation here is tussock grassland, the Plateau today is a mosaic of cultivated land, pasture and woodlots. The Plateau also had some forest, but only small patches remain.

On the Plateau, Nature Kenya has a guesthouse named '*Trees*', for the small remnant forest beside which it nestles. Perched at 2,400 m on the edge of the Kinangop plateau, *Trees* offers incredible views across the Rift of Mt. Longonot, Lake Naivasha, Eburru and the Mau Escarpment. The 20-acre farm combines tussock-grass pasture and indigenous escarpment forest, while attractive gardens surround the comfortable, fully furnished guesthouse. Visitors can enjoy hikes and walks on the farm or go further afield, to see the characteristic birds of the highland grassland. The guesthouse and its annex comprise of two double bedrooms (one with an extra single bed, while the other has a child's cot), each with its own solar panel heated shower. There is a spacious living room with a fireplace, a large modern kitchen and a large veranda.

A local conservation group, Friends of Kinangop Plateau (FoKP), is working for environmentally sustainable development at Kinangop and also keeping alive the cultural traditions of the Agikuyu people. Part of the visitor fee for *Trees* goes to supporting the vital work for FoKP.

Whether you prefer hiking or lounging or both, the quiet farm countryside of Kinangop provides a wonderful restful environment; it is the perfect place to recharge! For rates and further information please contact the Nature Kenya office email office@naturekenya.org

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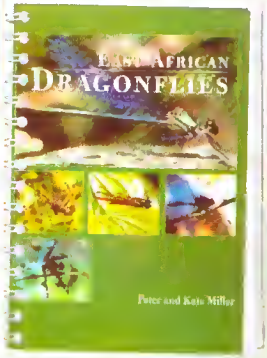

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